

**Technical Comments on
Draft Engineering Evaluation/Cost Analysis (EE/CA) for the Lower Duwamish
Waterway Slip 4 Early Action Area (Dated 12/12/05)**

1. *Goal and Objectives of the Removal Action.* The goal of the Early Action cleanup, as stated in the draft EE/CA (p. xvi), is to significantly reduce "exposure of ecological and human receptors to sediment contamination, thereby reducing or eliminating adverse effect on biological resources in the removal area." The two cleanup action objectives, as stated within the document (also, p. xvi), are:

- a) Reduce the concentrations of contaminants in post-cleanup surface sediments [biologically active zone (0 – 10 cm)] to below the Sediment Quality Standard (SQS) for PCBs and other chemicals of interest.
- b) Prevent the release of any remaining contaminated material into the waterway at concentrations that may cause recontamination of sediments or soils.

It is important to note that the first objective may not be sufficient to address the stated goal. As stated later in the document, the Sediment Quality Standard for PCBs and other chemicals of interest were developed to be protective to classes of benthic invertebrates, but not necessarily other ecological receptors or human receptors. Levels needed to protect human receptors or higher-trophic level ecological receptors may need to be lower than the SQS. We recommend that sediment and tissue concentration levels be developed and utilized as performance standards to determine compliance with the goals of protecting ecological and human receptors. This would include identifying target tissue levels needed to support activities modeled for the human health risk assessment for the overall Superfund Site. These sediment and tissue concentration performance standards would need to be integrated as components of a long-term monitoring program. This approach would be consistent with the activities being developed for the Lower Duwamish Superfund Site, and would provide quantitative triggers to evaluate whether the removal action is successful in meeting the Site-wide cleanup goals. The development of a monitoring program and performance standards is necessary for the statement made on page 33, Section 2.4.2.3 to be true ("The removal action defined in this EE/CA will eliminate the exposure pathways to PCBs in sediments within the removal area").

2. *Institutional Controls.* Several of the alternatives evaluated described propose, in part, use of institutional controls to achieve goals and objectives. It is important that the document clarifies that these proposed institutional controls would not preclude the Tribe from exercising Treaty-protected fishing activities in the area in the future.
3. *Long-term efficacy.* In addition to the development and use of appropriate chemical concentration monitoring goals for sediments and tissues, it is important that there be

assurances for any selected alternative to maintain any habitat benefits over the long-term. This is important because the habitat benefits from the alternatives are weighed in determining the selection of the cleanup alternative.

4. *Preferred Alternative.* The draft EE/CA identifies Alternative 2 as the preferred cleanup action. In order for the Tribe to support this alternative, it is important that assurances about long-term monitoring and success be confirmed, including assurances that additional cleanup actions will commence if monitoring determines that the remedy was not successful in achieving the goals. Additionally, it is important that clarifications regarding the institutional controls and long-term efficacy of the remedy be in place (see comments 2 and 3).